



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:** CHEN et al.

**Application No.:** 10/697,412

**Examiner:**

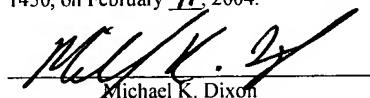
**Filed:** October 30, 2003

**Group Art Unit:**

**For:** SURFACE MICROMACHINED MECHANICAL  
MICROPUMPS AND FLUID SHEAR MIXING, LYSING,  
AND SEPARATION MICROSYSTEMS

**CERTIFICATE UNDER 37 CFR 1.8(a)**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 11, 2004.

  
Michael K. Dixon

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Date: February 11, 2004

**INFORMATION DISCLOSURE STATEMENT**

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Sir:

Pursuant to the Duty to Disclose under 37 C.F.R. §1.56, Applicants hereby disclose information that may be relevant to the Examiner's consideration of the above-identified application and the patentability of its claims.

In accordance with Rules 56, 97, and 98 of the Rules of Practice in Patent Cases (37 C.F.R. §§ 1.56, 1.97, and 1.98), Forms PTO/SB/08A & B with references cited therein are submitted for consideration by the Examiner. While the references provided in this Information Disclosure Statement may be material to patentability pursuant to 37 C.F.R. § 1.56, it is not intended to constitute an admission that any reference referred to herein is prior art for this invention unless specially designated as such. Also, in accordance with 37 C.F.R. § 1.97(g), the

{WP166708;1}

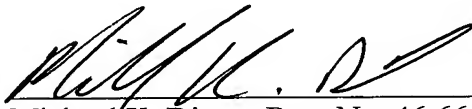
In re Application of: CHEN et al.  
Application No.: 10/697,412  
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Group Art Unit:  
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filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists.

This Information Disclosure Statement is being filed before the issuance of a first office action on the merits of the application (37 C.F.R. 1.97(b)(3)); therefore, no fee is believed to be due. However, if any fee is due, the Commissioner is authorized to charge any such fee and any additional fees due or credit any overpayment to Deposit Account No. 50-0951.

Respectfully submitted,



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Michael K. Dixon, Reg. No. 46,665  
AKERMAN SENTERFITT  
222 Lakeview Avenue, Suite 400  
Post Office Box 3188  
West Palm Beach, FL 33402-3188  
Telephone: (561) 653-5000  
Facsimile: (561) 659-6313

Docket No. 3303-23



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031  
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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

|                        |                  |
|------------------------|------------------|
| Application Number     | 10/697,412       |
| Filing Date            | October 30, 2003 |
| First Named Inventor   | CHEN et al.      |
| Art Unit               |                  |
| Examiner Name          |                  |
| Attorney Docket Number | 3303-23          |

**U. S. PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|--------------------|-----------------------|--|--------------------------------|--|---|
|                    |                       | Number-Kind Code <sup>2</sup> (if known) |                                |  |   |
|                    |                       | US- 5,096,388                            | 03/17/1992                     | Weinberg   |   |
|                    |                       | US- 5,585,011                            | 12/17/1996                     | Saaski et al.                                      |   |
|                    |                       | US- 5,705,318                            | 01/06/1998                     | Mehregany et al.                                   |   |
|                    |                       | US- 5,788,468                            | 08/04/1998                     | Dewa et al.  |   |
|                    |                       | US- 5,909,069                            | 06/01/1999                     | Allen et al.                                       |   |
|                    |                       | US- 5,997,263                            | 12/07/1999                     | Van Lintel et al.                                  |   |
|                    |                       | US- 6,116,863                            | 09/12/2000                     | Ahn et al.   |   |
|                    |                       | US- 6,136,212                            | 10/24/2000                     | Mastrangelo et al.                                 |   |
|                    |                       | US- 6,136,243                            | 10/24/2000                     | Mehregany et al.                                   |   |
|                    |                       | US- 6,227,809 B1                         | 05/08/2001                     | Forsler et al.                                     |   |
|                    |                       | US- 6,318,970 B1                         | 11/20/2001                     | Backhouse  |   |
|                    |                       | US- 2002/0160561 A1                      | 10/31/2002                     | Ouellet et al.                                     |   |
|                    |                       | US- 6,520,753 B1                         | 02/18/2003                     | Grosjean et al.                                    |   |
|                    |                       | US- 6,551,083 B2                         | 04/22/2003                     | Weisener et al.                                    |   |
|                    |                       | US- 6,579,068 B2                         | 06/17/2003                     | Bridger et al.                                     |   |
|                    |                       | US-                                      |                                |  |   |
|                    |                       | US-                                      |                                |  |   |
|                    |                       | US-                                      |                                |  |   |
|                    |                       | US-                                      |                                |  |   |

**FOREIGN PATENT DOCUMENTS**

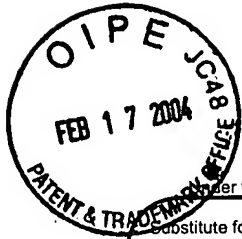
| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>Or Relevant Figures Appear | T <sup>6</sup> |
|--------------------|-----------------------|---|--------------------------------|--|---|----------------|
|                    |                       | Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known) |                                |  |   |                |
|                    |                       | EP 0,641,934A1  | 03/08/1995                     | de Rooij, Nicolaas Frans                           |   |                |
|                    |                       | WO 03/018464 A2   | 03/06/2003                     | Sandhage, Kenneth H.                               |   |                |
|                    |                       |   |                                |  |   |                |
|                    |                       |   |                                |  |   |                |
|                    |                       |   |                                |  |   |                |
|                    |                       |   |                                |  |   |                |

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application: Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |      | <b>Complete if Known</b> |                  |
|   |      | Application Number       | 10/697,412       |
|   |      | Filing Date              | October 30, 2003 |
|   |      | First Named Inventor     | CHEN et al.      |
|   |      | Art Unit                 |                  |
|   |      | Examiner Name            |                  |
| Sheet 2   | of 2 | Attorney Docket Number   | 3303-23          |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                                 |                       | SANDIA NATIONAL LABORATORIES, "Micromachines SUMMIT V Technology,"<br><a href="http://www.mdl.sandia.gov/technologies/micromachines/summit5.html">http://www.mdl.sandia.gov/technologies/micromachines/summit5.html</a> , Site Last Visited 10/4/2002.          |                |
|                                 |                       | SANDIA NATIONAL LABORATORIES, "Micromachines MEMS Overview,"<br><a href="http://www.mdl.sandia.gov/technologies/micromachines/overview.html">http://www.mdl.sandia.gov/technologies/micromachines/overview.html</a> , Site Last Visited 10/4/2002.              |                |
|                                 |                       | KILANI, et al., "DESIGN AND ANALYSIS OF A POLYSILICON SURFACE MICROMACHINED VISCOUS DRAG SPIRAL PUMP," 15th ASCE Engineering Mechanics Conference, Columbia University, New York, NY, June 2-5, 2002.   |                |
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|--------------------|-----------------|
| Examiner Signature | Date Considered |
|--------------------|-----------------|

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

|                        |                  |
|------------------------|------------------|
| Application Number     | 10/697,412       |
| Filing Date            | October 30, 2003 |
| First Named Inventor   | CHEN et al.      |
| Art Unit               |                  |
| Examiner Name          |                  |
| Attorney Docket Number | 3303-23          |

Total Number of Pages in This Submission

**ENCLOSURES (Check all that apply)**

|  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form                     | <input type="checkbox"/> Drawing(s)   | <input type="checkbox"/> After Allowance Communication to a Technology Center (TC)      |
| <input type="checkbox"/> Fee Attached  | <input type="checkbox"/> Licensing-related Papers   | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences     |
| <input type="checkbox"/> Amendment/Reply                                     | <input type="checkbox"/> Petition   | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final   | <input type="checkbox"/> Petition to Convert to a Provisional Application   | <input type="checkbox"/> Proprietary Information  |
| <input type="checkbox"/> Affidavits/declaration(s)                           | <input type="checkbox"/> Power of Attorney, Revocation  | <input type="checkbox"/> Status Letter  |
| <input type="checkbox"/> Extension of Time Request                           | <input type="checkbox"/> Change of Correspondence Address   | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):         |
| <input type="checkbox"/> Express Abandonment Request                         | <input type="checkbox"/> Terminal Disclaimer  | Form PTO/SB/08A & B; 3 References; and 1 Postcard.                                      |
| <input checked="" type="checkbox"/> Information Disclosure Statement         | <input type="checkbox"/> Request for Refund   |   |
| <input type="checkbox"/> Certified Copy of Priority Document(s)              | <input type="checkbox"/> CD, Number of CD(s) _____  |   |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application    | <b>Remarks</b>  |   |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | No fee is believed due. However, if any fee is due, the Commissioner is authorized to charge any such fee and any additional fees due or credit any overpayment to Deposit Account No. 50-0951. |   |

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

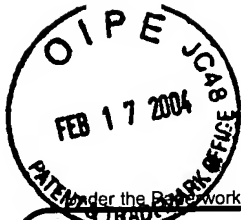
|                    |                    |
|--------------------|--------------------|
| Firm or Individual | AKERMAN SENTERFITT |
| Signature          | Michael K. Dixon   |
| Date               | February 11, 2004  |

**CERTIFICATE OF TRANSMISSION/MAILING**

|  |                        |
|--|------------------------|
| I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: February 11, 2004 |                        |
| Typed or printed   | Michael K. Dixon       |
| Signature  | Date February 11, 2004 |

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT

(\$ ) 0.00

## Complete if Known

|                      |                  |
|----------------------|------------------|
| Application Number   | 10/697,412       |
| Filing Date          | October 30, 2003 |
| First Named Inventor | CHEN et al.      |
| Examiner Name        |                  |
| Art Unit             |                  |
| Attorney Docket No.  | 3303-23          |

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit  
Account  
Number  
Deposit  
Account  
Name

50-0951

AKERMAN SENTERFITT

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

| Large Entity |          | Small Entity |          | Fee Description        | Fee Paid   |
|--------------|----------|--------------|----------|------------------------|------------|
| Fee Code     | Fee (\$) | Fee Code     | Fee (\$) |                        |            |
| 1001         | 770      | 2001         | 385      | Utility filing fee     |            |
| 1002         | 340      | 2002         | 170      | Design filing fee      |            |
| 1003         | 530      | 2003         | 265      | Plant filing fee       |            |
| 1004         | 770      | 2004         | 385      | Reissue filing fee     |            |
| 1005         | 160      | 2005         | 80       | Provisional filing fee |            |
| SUBTOTAL (1) |          |              |          |                        | (\$ ) 0.00 |

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

|                    | Extra Claims | Fee from below | Fee Paid |
|--------------------|--------------|----------------|----------|
| Total Claims       | -20** =      | X              |          |
| Independent Claims | -3** =       | X              |          |
| Multiple Dependent |              |                |          |

| Large Entity |          | Small Entity |          | Fee Description  |
|--------------|----------|--------------|----------|--|
| Fee Code     | Fee (\$) | Fee Code     | Fee (\$) |  |
| 1202         | 18       | 2202         | 9        | Claims in excess of 20                                     |
| 1201         | 86       | 2201         | 43       | Independent claims in excess of 3                          |
| 1203         | 290      | 2203         | 145      | Multiple dependent claim, if not paid                      |
| 1204         | 86       | 2204         | 43       | ** Reissue independent claims over original patent         |
| 1205         | 18       | 2205         | 9        | ** Reissue claims in excess of 20 and over original patent |

SUBTOTAL (2)

(\$ ) 0.00

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

| Fee Code | Fee (\$) | Fee Code | Fee (\$) | Fee Description  | Fee Paid |
|----------|----------|----------|----------|--|----------|
| 1051     | 130      | 2051     | 65       | Surcharge - late filing fee or oath  |          |
| 1052     | 50       | 2052     | 25       | Surcharge - late provisional filing fee or cover sheet                     |          |
| 1053     | 130      | 1053     | 130      | Non-English specification  |          |
| 1812     | 2,520    | 1812     | 2,520    | For filing a request for <i>ex parte</i> reexamination                     |          |
| 1804     | 920*     | 1804     | 920*     | Requesting publication of SIR prior to Examiner action                     |          |
| 1805     | 1,840*   | 1805     | 1,840*   | Requesting publication of SIR after Examiner action                        |          |
| 1251     | 110      | 2251     | 55       | Extension for reply within first month                                     |          |
| 1252     | 420      | 2252     | 210      | Extension for reply within second month                                    |          |
| 1253     | 950      | 2253     | 475      | Extension for reply within third month                                     |          |
| 1254     | 1,480    | 2254     | 740      | Extension for reply within fourth month                                    |          |
| 1255     | 2,010    | 2255     | 1,005    | Extension for reply within fifth month                                     |          |
| 1401     | 330      | 2401     | 165      | Notice of Appeal   |          |
| 1402     | 330      | 2402     | 165      | Filing a brief in support of an appeal                                     |          |
| 1403     | 290      | 2403     | 145      | Request for oral hearing   |          |
| 1451     | 1,510    | 1451     | 1,510    | Petition to institute a public use proceeding                              |          |
| 1452     | 110      | 2452     | 55       | Petition to revive - unavoidable   |          |
| 1453     | 1,330    | 2453     | 665      | Petition to revive - unintentional   |          |
| 1501     | 1,330    | 2501     | 665      | Utility issue fee (or reissue)   |          |
| 1502     | 480      | 2502     | 240      | Design issue fee   |          |
| 1503     | 640      | 2503     | 320      | Plant issue fee  |          |
| 1460     | 130      | 1460     | 130      | Petitions to the Commissioner  |          |
| 1807     | 50       | 1807     | 50       | Processing fee under 37 CFR 1.17(q)  |          |
| 1806     | 180      | 1806     | 180      | Submission of Information Disclosure Stmt                                  |          |
| 8021     | 40       | 8021     | 40       | Recording each patent assignment per property (times number of properties) |          |
| 1809     | 770      | 2809     | 385      | Filing a submission after final rejection (37 CFR 1.129(a))                |          |
| 1810     | 770      | 2810     | 385      | For each additional invention to be examined (37 CFR 1.129(b))             |          |
| 1801     | 770      | 2801     | 385      | Request for Continued Examination (RCE)                                    |          |
| 1802     | 900      | 1802     | 900      | Request for expedited examination of a design application                  |          |

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 0.00

## SUBMITTED BY

|                   |                         |                                   |                   |           |              |
|-------------------|-------------------------|-----------------------------------|-------------------|-----------|--------------|
| Name (Print/Type) | Michael K. Dixon        | Registration No. (Attorney/Agent) | 46,665            | Telephone | 561-653-5000 |
| Signature         | <i>Michael K. Dixon</i> | Date                              | February 11, 2004 |           |              |

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